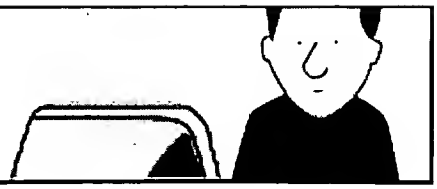
EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1032	((546/298) or (514/350)).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2007/01/22 12:09
L2	2238542	"2006".py. or "2007".py.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/01/22 12:09
L3	100	1 and 2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/01/22 12:09



NPL Search Notes

Alteration of lacto-series glycolipid glycosyltransferase activities in human colonic adenocarcinoma DLD-1 cells after culture in N,N-dimethylformamide-containing medium.

J Cell Biochem. 1990; 44(2):93-105 (ISSN: 0730-2312)

Holmes EH; Greene TG
Pacific Northwest Research Foundation, Seattle, Washington 98122.

Human colonic adenocarcinoma DLD-1 cells were grown under conditions which induce characteristics of differentiated cells using medium containing 0.8% N,N-dimethylformamide in order to study alterations in glycosphingolipid glycosyltransferase activities during this process. Analysis of biosynthetic reactions involved in lacto-series antigen synthesis revealed no changes in the specific activities of either beta 1----4galactosyltransferase or alpha 1----3/4fucosyltransferase with N,N-dimethylformamide treatment. However, a dramatic decrease of from 14- to 20-fold in the beta 1----3N-acetylglucosaminyltransferase activity was observed in the treated cells. This enzyme catalyzes the rate-limiting step in lacto-series core chain synthesis. This is consistent with the pattern of regulation of lacto-series antigen expression found to occur during oncogenesis in human colonic mucosa (Holmes EH, Hakomori S, Ostrander GK: J Biol Chem 262:15649, 1987). Total glycolipids from untreated and N,N-dimethylformamide-treated cells were isolated and subjected to TLC immunostain analysis and solid phase radioimmunoassay with a series of monoclonal antibodies specific for lacto-series-based carbohydrate antigens. A decrease of about 2-fold or less in the quantity of lacto-series antigens was observed as a consequence of N,N-dimethylformamide treatment in both neutral glycolipid and ganglioside fractions. The results suggest that only very low levels of beta 1----3N-acetylglucosaminyltransferase activity are required for the steady state expression of significant levels of lacto-series based glycolipids and that modulation of its activity levels by N,N-dimethylformamide treatment in DLD-1 cells represents a convenient in vitro system for studying aspects of regulation of lacto-series antigen expression.

Subject Headings

PreMedline Identifier: 2250046